

Table 51

Spm constitution in progeny derived from the Y, variegated class of kernels on ear of the main stalk of plant 6665E-10 (culture 6864) and from the ear of a tiller of this plant (culture 6865)

Culture Number	Phenotypes of kernels on testcross ear				Total
	Pale		Variegated		
	<u>Y</u>	<u>y</u>	<u>Y</u>	<u>y</u>	
1 <u>Spm</u> , not linked with <u>Y</u>					
6864 (11 plants)	1075	1113	1045	1036	4269
6865 (12 plants)	1023	1052	979	1026	4080
2 and <u>Spm</u> , neither linked with <u>Y</u>					
6864-7	66	80	146	146	438
6864-12	51	29	150	193	428
6865-1	68	54	165	170	463
6865-12	39	40	113	121	313
2 <u>Spm</u> , one linked with <u>y</u>					
6864-3	27	70	160	117	375
2 ^{or 3} <u>Spm</u> , one linked with <u>y</u> (?)					

Table 52

Proportion of pale colored to variegated kernels on the testcross ears produced by the Pr/Pr plants in culture 6683 and 6685 entered in 1, 2, and 3 of figure 3

<u>Spm</u> Constitution	Number of Plants	Number of Testcross Ears	Phenotypes of <u>a₁^{m-1}</u> carrying kernels		
			Pale	Variegated	Total
1 <u>Spm</u>	5	5	687	651	1338
2 linked <u>Spm</u>	5	7	694	1030	1724
3 <u>Spm</u>	1	3	170	593	763

Table 53

Phenotypes of kernels on testcross ears produced by plants
entered in 4 to 7 of figure 3

<u>Spm</u> constitution	Number of Plants	Number of Testcross Ears	Phenotypes of <u>a</u> ₁ ^{m-1} carrying kernels				Total	
			Pale		Variegated			
			<u>Pr</u>	<u>pr</u>	<u>Pr</u>	<u>pr</u>		
<u>Pr</u> + +/ <u>pr</u> <u>Spm</u> <u>Spm</u>	16	20	1410	336	996	2018	4760	
	2	2		230	95	238	563	
<u>Pr</u> +/ <u>pr</u> <u>Spm</u> plus 1 non-linked <u>Spm</u>	1	1	89	26	180	224	519	
<u>Pr</u> +/ <u>pr</u> <u>Spm</u>								
6683D-2 tiller ear*	X	1	92	13	19	90	214	17
6683D-3	X	1	96	33	32	52	213	38
6683E-8	X	1	195	69	74	193	531	27
6685F-3	X	3	275	91	67	214	647	23
6685F-4	X	1	90	33	28	96	247	23
6685G-3	X	1	80	31	23	70	204	24
6685H-5	X	1		176	41	115	332	26
6685H-10	X	1		101	29	61	191	32
<u>Pr</u> / <u>pr</u> ; 1 <u>Spm</u>								
6685H-24	1	1	85	122	100	109	416	

90% Recombination in variegated cross

* 45 pale-colored kernels in a "No Spm" sector on this ear were excluded from the table.

90% Recombination in variegated ears

Table 54

Phenotypes of kernels on testcross ears produced by plants
entered in figure 4

<u>Spm</u> Consitution	Number of Plants	Number of Testcross Ears	Phenotypes of a_1^{m-1} carrying				Total
			Pale		Variegated		
			<u>Pr</u>	<u>pr</u>	<u>Pr</u>	<u>pr</u>	
<u>Pr Spm/pr</u> +							
Ears of 6684D-1		2	50	90	91	48	279
Pollen of main stalk, 6684D-1		2	80	188	114	46	428
Pollen of tiller, 6684D-1		6	128	228	208	107	671
<u>Pr Spm Spm/pr</u> + +							
6684D-2, Ear on main stalk			11	62	81	29	183
" " , Ear of tiller			22	73	93	34	222
6684D-3		1	5	43	54	22	124
6684E-5		1		140	134	56	330
6684E-6		1		161	141	54	356
<u>pr/pr</u> ; 2 linked <u>Spm</u>							
6684A		1		83		106	189
6684E-8		1		155		234	389
6684E-9		1		116		248	364
6684E-11		1		151		222	373
<u>pr/pr</u> ; 1 <u>Spm</u>							
6684E-2		1		246		235	481
6684E-3		1		145		162	307
6684E-4		1		134		140	274
6684E-12		1		159		163	322
6684E-13		1		233		222	455
6685E-15		1		192		218	410

Table 55

Spm constitution of Pr/pr progeny of tiller of plant 6683D-2

Plant Number in culture 6878	Spm Constitution	Number of Ears	Phenotype of a_1^{m-1} carrying kernels on ears				Total
			Pale		Variegated		
			<u>Pr</u>	<u>pr</u>	<u>Pr</u>	<u>pr</u>	
A-1, Ear	<u>Pr</u> <u>Spm/pr</u> +	1	61	129	99	40	329
Pollen	" " " "	2	73	124	106	31	334
A-3, Ears	<u>Pr/pr</u> ; 1 <u>Spm</u>	3	393		140	143	676
A-4, Ears	<u>Pr/pr</u> ; 1 <u>Spm</u>	2	490		195	221	906
Pollen	" " " "	2	213		79	92	384
B-2, Ears	<u>Pr/pr</u> ; 1 <u>Spm</u>	2	152	145	120	123	540
Pollen	" " " "	2	406		72	105	583
B-3, 1st ear, main stalk	<u>Pr/pr</u> ; 1 <u>Spm</u>		51	51	43	44	190
2nd ear, main stalk	" " " "		35		17	17	69
Tiller ear	<u>Pr/pr</u> ; 2 <u>Spm</u>		25	23	78	78	204
B-4, Ears	<u>Pr/pr</u> ; 1 <u>Spm</u>	2	140	131	117	117	505
B-1, Ear main stalk	<u>Pr/pr</u> ; 2 linked <u>Spm</u>		100	101	137	149	487
Tiller ear (Deficiency in <u>pr</u> class)	<u>Pr/pr</u> ; (1 <u>Spm</u>)		70	40	61	39	210

Table 56

Spm constitution and location in progeny of plant 6685F-3

Plant Number and Constitution	Number of Ears	Phenotypes of $\underline{a_1}^{\underline{m}-1}$ carrying kernels on ear				Totals	Percent of Recombinants in variegated class
		<u>Pale</u>		<u>Variegated</u>			
		<u>Pr</u>	<u>pr</u>	<u>Pr</u>	<u>pr</u>		
<u>Pr+/<u>pr</u> <u>Spm</u></u>							
6685F-3, tiller ear		87	30	21	74	212	22
<u>Pr <u>Spm</u>/<u>pr</u> +</u>							
6682A-4	1	55	201	177	44	477	20
6682A-5	1	40	166	160	26	392	14
6682A-7	1	45	143	139	31	358	18
6682B-3	1	9	40	34	12	95	24
<u>Pr/<u>pr</u>; 1 <u>Spm</u></u>							
6682A-2	1	82	83	94	92	351	
6682A-3	1	154	141	88	93	476	
6682A-6	1	85	66	66	69	286	
6682B-1, pollen	3	185	171	134	152	642	
<u>Pr/<u>pr</u>; 4 <u>Spm</u></u>							
6682A-2, Ear on main stalk		15	14	235	246	510	
Tiller ear			9	50	54	113	
<u>Pr/<u>pr</u>; No <u>Spm</u></u>							
6682B-2							

Table 57

Spm constitution and location in ~~Pr~~ progeny of plant 6685G-2

Plant Number and <u>Spm</u> Constitution	Number of Ears	Phenotypes of <u>a₁^{m-1}</u> carrying kernels on ears				Totals	Percent Recombinants in variegated class
		Pale		Variegated			
		<u>Pr</u>	<u>pr</u>	<u>Pr</u>	<u>pr</u>		
Parent Plant							
<u>Pr Spm/Pr</u> +							
6685G-2	1	132	0	137	0	269	
Progeny, Culture 6875							
<u>Pr Spm/pr</u> +							
A-4	2	75	296	274	70	715	20
A-5	1	39	165	170	37	411	18
B-3	2	81	277	228	49	635	18
B-4*	3	77	345	305	69	796	18
B-5†	2	109	335	334	126	904	27
B-10	2	53	228	201	64	546	24
A-1	1		191	160	26	377	14
A-2	2		264	177	49	490	21
A-3	1		184	126	30	340	19
A-6	1		266	230	44	540	16
A-7	1		253	202	60	515	23
B-6	1		207	173	42	422	19.5
B-7, Tiller ear			93	69	11	173	13.6
B-12	1		167	160	33	360	17
B-13	1		173	132	46	351	26
Totals			3878	2941	756	7575	20.4
<u>Pr Spm/pr</u> +; plus 1 <u>Spm</u> ,							
B-9	1	49	105	209	148	511	
B-7, Ear of main stalk			128	132	87	347	
<u>Pr/pr</u> ; 1 <u>Spm</u>							
B-8	1		281	114	132	527	

Pr/pr; Inactive Spm, location not determined

B-1, B-2, B-11

* On the second ear of the main stalk there was a sector at the base of the ear in which all kernels were pale colored in the upper part and in which variegated kernels appeared in the lower part, these being distributed equally between the Pr and pr classes. The kernels within this twin sector were excluded from the data given for this ear.

† There was a sector in the middle of the ear of the tiller in which all kernels were pale colored. These kernels were excluded from the data given for this ear.

Table 58

Spm constitution and location in progeny of plant 6684D-1. Spm received from ^{yellow} tiller of plant 6684D-1. Only one testcross ear obtained from each progeny plant.

<u>Spm</u> Number and location in plants of cultures 6680 and 6681	Phenotypes of a_1^{m-1} carrying kernels on testcross ears				Percent Recombinants among Variegated class of kernels	
	Pale		Variegated		Total	
	<u>Pr</u>	<u>pr</u>	<u>Pr</u>	<u>pr</u>		
<u>Pr</u> <u>Spm/pr</u> +						
6880-1	57	148	137	53	395	28
" -3	40	114	120	23	297	16
" -4	57	125	121	52	355	30
" -5	53	192	172	58	475	25
" -6	41	131	118	23	313	16
" -7	75	161	166	73	475	30
" -8	40	169	142	30	381	17
" -10	26	63	69	17	175	20
" -11	32	71	96	37	236	28
Totals	421	1174	1141	366	3102	24.2
6881-1		198		106	352	31
" -3		175		95	304	26
" -4		58		42	126	38
" -6		125		59	210	31
" -7		77		45	143	32
" -8		197		117	359	28
" -9		201		117	355	24
" -10		58		35	107	28
Totals		1089		616	1956	28.0
<u>Pr/pr</u> ; 1 <u>Spm</u>						
6880-2	67	73	71	77	288	
6881-2		234	98	99	431	
<u>Pr/pr</u> ; 3 <u>Spm</u>						
6881-5	31	36	167	176	410	
No <u>Spm</u>						
6880-9						

Table 59

Spm constitution and location in progeny derived from self-pollinated ear of tiller of plant 6684D-1

Spm Constitution and Location	Phenotypes of <u>a₁^{m-1}</u> carrying kernels on testcross ears				Total	Percent of Recombinants in Variegated class of kernels
	Pale		Variegated			
	<u>Pr</u>	<u>pr</u>	<u>Pr</u>	<u>pr</u>		
Parent Plant						
<u>Pr</u> <u>Spm</u> / <u>pr</u> +						
6684D-1, ear of tiller, self-poll.	38	32	142	28	240	
Progeny, Culture 6879						
<u>Pr</u> <u>Spm</u> / <u>pr</u> +						
6879-3	51	73	77	49	250	34
" -4	13	36	53	16	118	23
" -16	14	25	24	7	70	22
" -7		170	88	55	313	38
" -18		147	94	28	269	23
Totals	529		336	155	1020	31.5
<u>Pr</u> +/ <u>pr</u> <u>Spm</u>						
6879-20	73	52	32	66	223	33
" -13		138	46	79	263	35
<u>Pr</u> / <u>pr</u> ; 2 <u>Spm</u> (allelic positions ?)						
6879-11 Ear, main stalk	13	24	132	130	299	
Tiller ear	5	12	73	76	166	
6879-19	32	32	100	70	234	
<u>Pr</u> / <u>pr</u> ; 1 <u>Spm</u>						
6879-5	27	18	19	17	81	
" -10		202	88	81	371	
<u>Pr</u> / <u>Pr</u> ; 1 <u>Spm</u>						
6879-6	184		127		311	
" -12*	59		40		99	
<u>Pr</u> / <u>Pr</u> ; 2 <u>Spm</u> (allelic positions ?)						
6879-1	35		257		292	
" -14	93		249		342	
No <u>Spm</u>						
6879-9						

* Spm was inactive in a few kernels on this ear.

Table 60

Spm number in progeny of plants having either 1 or 2 or 3 non-linked Spm elements in them. The Spm number given in this table is that which was present in the part of a plant that produced the first ear on the main stalk. Only those progenies that were grown in the summers of 1952 to 1955 are included.

Number of <u>Spm</u> in Parent Plant	Number of Plants in Progeny having 1, 2, or 3 <u>Spm</u> Elements			
	1 <u>Spm</u>	2 <u>Spm</u>	3 or more <u>Spm</u>	Total
1 <u>Spm</u>	285	22	6	313
2 <u>Spm</u>	89	28	11	128
3 <u>Spm</u>	36	31	26	93

Table 61

Spm number in different parts of individual plants. A. Correspondence
of Spm number in all tested parts of plant. B. Non-correspondence of
Spm number in all parts of a plant.

Parts of Plant Tested	Number of Plants with Stated <u>Spm</u> Number in Each Part Tested			Total
	1 <u>Spm</u>	2 <u>Spm</u>	3 or more <u>Spm</u>	
Ears I and II, main stalk	6	5	0	11
Ear I, main stalk, and tiller ear	45	18	5	68
Ear I, main stalk, and pollen	13	3		16
Ears I and II, main stalk, and tiller ear	3	4	1	8
Ear I, main stalk, and ears of two tillers	9	1	1	11
Ears I and II, main stalk, and pollen	1			1
Ear I, main stalk, ear of tiller, and pollen	8	1		9
Ear I, main stalk, ears from two tillers, and pollen	1			1
Totals	86	32	7	125

Only plants grown in the summers of 1952 and 1955 are included in this table.

Table 62

Non-correspondence of Spm number in different parts of a plant. Only those plants that were grown in the summers of 1952 to 1955 are included in the table. Parts of plants in which Spm was absent, or in which it was absent in a segment within the part tested, are also excluded from the table.

Plant Number	Part of Plant Tested		
	<u>Spm</u> Number in Main Stalk	<u>Spm</u> Number in Tiller	<u>Spm</u> Number in Second Tiller
6452-3	3	2	
6453-9	2	2	3
6676B-7	2	1	
6684F-1	2	1	
6872-2	2	1	
6874B-3	1	2	
6874B-10	3	2	
6875B-7	2	1	
6876-8	1	2	
6878B-1	2	1	
6878B-3	1	2	

Table 63

Phenotypes of kernels appearing on testcross ears of plants in culture 6888 that were derived from uniformly pale colored kernels on ear of plant 6683B-2. Pollen parent used in making cross was homozygous for a_1 and sh_2 and carried 1 active Spm.

Constitution of Plant in Culture 6888	Number of Plants	Phenotypes of kernels on ear					Totals
		Pale <u>Sh</u> ₂	Variegated	<u>Sh</u> ₂	Colorless	Colorless	
			Many Spots of <u>A</u> ₁ in colorless background	1 or several spots of <u>A</u> ₁ in colorless background	<u>Sh</u> ₂	<u>sh</u> ₂	
$a_1^{m-1}sh_2/a_1^{m-1}sh_2$	2	419	471	1	0	0	891
$a_1^{m-1}sh_2/a_1 sh_2$	5	596	597	1	1	1142	2337

Table 64

Phenotypes of kernels appearing on ears of plants in culture 6888 that were derived from kernels on ear of plant 6683B-2 that had only 1 or several dots of A_1 in a colorless background. The pollen parent used in making the cross was homozygous for a_1 , sh_2 , and pr and had 1 active Spm . (See Figure 5)

Constitution of Plants in Culture 6888	No. of Plants	Phenotypes of kernels on Ear								Totals
		Pale Sh_2		Variegated Sh_2				Colorless	Colorless	
		Pr	pr	Many Spots of A_1 in colorless background		1 or several Spots of A_1 in colorless background		Sh_2	sh_2	
				Pr	pr	Pr	pr			
$a_1^{m-1}sh_2/a_1^{m-1}sh_2$	2	75	102	170	177	97	56	31	0	708
" "	1		91	131	118	52	43	49	0	484
$a_1^{m-1}sh_2/a_1 sh_2$	5	101	169	283	256	163	67	36	1033*	2108

*In addition, there were 3 sh_2 kernels with many spots of A_1 in a colorless background.

Table 65

Location of Spm-w in progeny of plants in culture 6888 as judged by kernel phenotypes appearing on testcross ears each produced. The pollen parent used to make each cross was homozygous for a₁^{m-1}, Sh₂, and pr and it had no Spm. (state 5719A-1 or state 5718)

		Phenotypes of Kernels on Ear					
Constitution of Tested Plants	Number of Ears	Pale	Colored	1 or several <u>A₁</u> dots in colorless back- ground		Colorless	Total
		<u>Pr</u>	<u>pr</u>	<u>Pr</u>	<u>pr</u>		
<u>Pr Spm-w/pr +</u>							
Culture:							
7262C, D	5	206	769	437	116	390	1918
7263C, D	5	298	782	403	138	457	2078
7264B	9	431	1207	702	232	602	3174
Totals	19	935	2758	1542	486	1449	7170
<u>Pr +/-pr Spm-w</u>							
Culture:							
7263D	3	475	203	124	229	323	1354
<u>Pr/pr; 1 Spm-w</u>							
Culture:							
7263C	2	170	166	76	88	192	692
<u>Pr/Pr; 1 Spm-w</u>							
Culture:							
7263C	2	284	--	143	--	143	569
<u>Pr Spm-w/pr +</u>							
Delayed time of activation of <u>Spm</u>							
Plant 7264B-6	1	142	154	30	8	85	419
"Inactive" <u>Spm+ w</u>		60	25				85
						Total	504

Table 66

Phenotypes of kernels on testcross ears of "No Spm-w" plants in figure 7.

Plant Number	Phenotype of kernel				Total
	Uniformly Pale pigmented		Many A_1 Spots in Colorless background		
	<u>Y</u>	<u>y</u>	<u>Y</u>	<u>y</u>	
<u>Y</u> +/ <u>y</u> <u>Spm-s</u> :					
7262B-4	169	6	3	225	403
7263A-1*	9	13	6	20	48
" A-4	124	24	18	123	289
" A-5	67	16	8	60	151
" A-6(ear I)	166	55	37	172	430
" " "(" II)	87	27	17	100	231
" A-7	149	59	44	137	389
Totals for plants in Culture 7263	602	194	130	612	1538
<u>Y</u> +/ <u>y</u> <u>Spm-s</u> plus 1 <u>Spm-s</u> :					
7263A-3 [†]	135	28	81	194	438
<u>Y</u> +/ <u>y</u> <u>Spm-s</u> plus 2 <u>Spm-s</u> :					
7262B-2	51	3	152	193	399
<u>y</u> / <u>y</u> ; 1 <u>Spm-s</u> :					
7263B-3	--	159	--	162	321
" B-6	--	206	--	204	410
" B-9	--	105	--	85	190
<u>y</u> / <u>y</u> ; 2 <u>Spm-s</u> :					
7263B-2	--	107	--	297	404

* Ear was partially sterile.

[†] One $\frac{Y}{y}$, $\frac{Pr}{pr}$ kernel on ear had only few A_1 dots in colorless background.

Table 67

Phenotypes of kernels appearing on testcross ears of plants in 1. and 2. of figure 7 under heading "Spm-w present".

Phenotype of kernel with Regard to

<u>a</u> ₁ ^{m-l} action:	Plant	<u>Pr</u> <u>Y</u>	<u>pr</u> <u>Y</u>	<u>Pr</u> <u>y</u>	<u>pr</u> <u>y</u>	Totals
Male color (no <u>Spm-s</u> , no <u>Spm-w</u>)	Number					
	7262B-1	28	51	0	3	82
	" B-3	20	41	0	2	63
	" B-5	18	54	2	2	76
	7263A-8	32	54	7	5	98
	Totals	98	200	9	12	319
	7263A-2		42		37	79

Many A₁ spots in colorless background (Spm-s present)

7262B-1	9	6	74	92	181
" B-3	0	5	74	66	145
" B-5	3	4	102	82	228
7263A-8	4	4	110	102	220
Totals	16	19	360	342	737
7263A-2	30	45	48	97	153

One or several A₁ dots in colorless background (Spm-w, no Spm-s)

7262B-1	56	24	2	1	83
" B-3	41	15	4	2	62
" B-5	62	11	1	3	77
7263A-8	53	19	4	3	79
Totals	212	69	11	9	301
7263A-2	20	5	11	5	41

Colorless; no A₁ dots

(<u>Spm-w</u> , no <u>Spm-s</u>)	7262B-1	18	1	19
	" B-3	3	0	3
	" B-5	21	0	21
	7263A-8	14	4	18
Totals		56	5	61
	7263A-2	19	18	37

Total number of Kernels:
1728

Summaries of plants 7262B-1, B-3, B-5 and 7263A-8:

737 Spm-s (376Pr : 361 pr; 35 Y : 702 y)

362 Spm-w; no Spm-s (223 Pr : 78 pr; 337 Y : 25 y)

319 no Spm-s, no Spm-w (107 Pr : 212 pr; 298 Y : 21 y)

29.8 % recombination between Pr and Spm-w

5.7 % recombination between y and Spm-s

Table 68

Phenotypes of kernels appearing on testcross ears of plant in 3 and 4 of figure 7 under heading "Spm-w present".

Plant Number	Pale		Phenotype of kernel		Colorless		Totals
	<u>Pr</u>	<u>pr</u>	Many <u>A₁</u> dots in colorless background	1 or several <u>A₁</u> dots in colorless background	<u>Pr</u>	<u>pr</u>	
7263B-1							
Part of ear with <u>Spm-s</u>	29		20	20	10	5	91
Part of ear with no <u>Spm-s</u>	69		0	0	52	2	144
7263B-4	17	30	45	44	16	9	164
7263B-8	17	42	52	58	29	9	228
Totals	204	Pale	117	122	107	25	627
7263B-7	20	51	183	217	30	11	552

Table 69

Phenotypes of kernels appearing on ears of plants that were homozygous for state 5719A-1 $\underline{a}_1^{\underline{m}-1}$ and were $\underline{Pr} \underline{Spm-w/pr} +$, when crossed by plants homozygous for state 5719A-1 $\underline{a}_1^{\underline{m}-1}$ and \underline{pr} that had no \underline{Spm} in them.

Plant Number of Female parent in Cross	Phenotype of Kernel					Total
	Pale Colored		Spots of \underline{A}_1 in Colorless Back- ground *		Colorless	
	<u>Pr</u>	<u>pr</u>	<u>Pr</u>	<u>pr</u>		
7347A-2	46	110	79	50	4	289
7347A-3, tiller-1	53	125	90	43	11	322
" " -2	36	66	65	39	3	209
7347A-4, tiller-1	43	63	66	23	6	201
" " -2	25	44	40	19	3	131
7348A-1, main ear	37	47	35	17	29	165
" tiller ear	51	95	89	32	21	238
Totals	291	550	464	223	77	1605

No Evidence of \underline{Spm} : 841 34.6% are recombinants

\underline{Spm} present: 764 32.4% among variegated class are recombinants

* The number of \underline{A}_1 spots on most kernels was low, being only 1 or several. On the ear of plant 7347A-2 one kernel appeared with and $\underline{Spm-s}$ type variegation pattern, and another kernel that had nearly as many dots of \underline{A}_1 within them. Also, there were several kernels that had sectors in which many dots of \underline{A}_1 appeared.

Table 70.

Phenotypes of kernels appearing on ears of plants in culture 7530A that were $\underline{a}_1^{\underline{m}-1}$ (state 5700A)/ $\underline{a}_1^{\underline{m}-1}$ (state 5719A-1) produced by cross with plants homozygous for \underline{a}_1 and having no Spm (part I) or in which 1 Spm-s was present (Part II).

Plant Number in Culture	Position of Ear on Plant	Culture Number of parent	Phenotype of Kernel		Total
			Pale Colored	State in Variegated Kernel*	
7530A				<u>5719A-1</u> <u>5700A-1</u>	
A-1	First ear, main stalk	7510-14	178	0 0	178
A-2	Second ear, main stalk	7510-14	491	0 0	491
A-4	First ear, main stalk	7532D-4	549	0 0	549
Part II					
A-1	Second ear, main stalk	7532D-6	109	68 45	222
A-2	"	" D-1	92	33 33	158
A-3	First ear, main stalk	" D-2	261	137 129	527
"	Tiller ear	" D-6	10	10 8	28
A-5	First ear, main stalk	" D-1	135	61 65	261
"	Second ear, main stalk	" D-6	86	50 38	174
Totals			693	359 318	1370

* Under "A" heading "For" state 5719A-1 kernels had many A₁ dots (see photo.). For state 5700A, the number of A₁ dots in a kernel was far in excess of that under heading 5719A-1 (see photo).

Table 71

in culture 7530B

Phenotypes of kernels appearing on ears of plants that were $a_1 m^{-1}$ (state 5700A)/
 $a_1 m^{-1}$ (state 5719A-1), Br +/- pr Spm-w in constitution produced by cross with plants
homozygous for a_1 and having no Spm.

Plant Number in Culture	Position of Ear in Plant	Phenotype of Kernel			Total
		Pale colored	Many A_1 spots in colorless background (state 5700A)	1 or several A_1 spots in color- less background (state 5719A-1)	
7530B					
1	First ear, main stalk	243	122	101	488
"	Tiller	150	103	69	333
2	First ear, main stalk	244	108	123	486
"	Second ear, main stalk	35	28	17	80
3	First ear, main stalk	253	144	112	526
4	"	74	39	38	159
5	"	265	115	119	520
Totals		1264	659	579	2592

Table 72

Kernel types on ears of plants in culture 7529 that were a_1^{m-1} (state 5700A) Sh_2/a_1^{m-1} (state 5719A-1) Sh_2 , $Pr +/pr$ $Spm-w$ in constitution when crossed by plants homozygous for a_1 and sh_2 and having no Spm . Pollen parent used in making cross to six of the ears was homozygous for pr . That used in making cross to 7th ear (first ear, main stalk, plant 7529-4) was homozygous Pr .

Plant Number in Culture	Pale Colored	Phenotypes of Kernels on Ear			Totals
		Small dots or specks of A_1 (from ^{approximately} 10 to several hundred) in colorless background (state 5700A)*	1 or 2 dots or specks of A_1 in colorless background (state 5719A-1)	Colorless (state 5719A-1)	
7529					
4, Ears I and II	369	180	95	83	727
5, Ear I	285	140	43	69	537
3, Ears I and II	221	108	30	77	436
2, Ear I	293	33	17	34	377
1, Ear I	261	101	33	61	456
Totals	1429	562	218	324	2533

Totals, state 5719A-1:

542

of kernels having A_1 dots in colorless background

On ears produced by cross with plants that were pr/pr , 37.5% were Pr and 62.5% were pr .

* 2nd ear of 7529-4 (first ear, main stalk, plant 7529-4)